CHANGE

**U.S. DEPARTMENT OF TRANSPORTATION**
**FEDERAL AVIATION ADMINISTRATION**

**7110.10N CHG 1**

4/10/00

**SUBJ: FLIGHT SERVICES**

**1. PURPOSE.** This change transmits revised pages to Order 7110.10N, Flight Services, and the Briefing Guide.

**2. DISTRIBUTION.** This change is distributed to select offices in Washington headquarters, regional offices, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, all air traffic field facilities, international aviation field offices, and interested aviation public.

**3. EFFECTIVE DATE.** August 10, 2000.

**4. EXPLANATION OF CHANGES.** See the Explanation of Changes attachment.

**5. DISPOSITION OF TRANSMITTAL.** Retain this transmittal until superseded by a new basic order.

**6. PAGE CONTROL CHART.** See the Page Control Chart attachment.

~ SIGNED ~

Ronald E. Morgan
Director of Air Traffic

Date: 4/10/00

**Distribution: ZAT-712; ZAT-464; ZAT-423 (External)**

**Initiated By: ATP-300**

# EXPLANATION OF CHANGES

## Direct questions through appropriate facility/region staff to the Office of Primary Interest (OPI)

**a. 2-1-6, Weather Report Phraseology, Tables 2-1-4 and 2-1-8; 14-1-8, Weather Phraseology, Tables 14-1-8 and 14-1-9; and 14-1-11, RAREP's, Table 14-1-27.**

ICAO contraction for Ice Pellets changed from IP and/or PE to PL.

**b. 6-2-1, Flight Plan Recording, Table 6-2-3.**

/Q suffix added to indicate that an aircraft is both /R and /W qualified.

c. Change pages have been included to correct editorial errors in the basic edition.

# PAGE CONTROL CHART

| REMOVE PAGES | DATED | INSERT PAGES | DATED |
|---|---|---|---|
| i | 2/24/00 | i | 8/10/00 |
| ii | 2/24/00 | ii | 2/24/00 |
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| 6-2-2 and 6-2-3 | 2/24/00 | 6-2-2 and 6-2-3 | 8/10/00 |
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| 14-1-10 | 2/24/00 | 14-1-10 | 2/24/00 |
| 14-1-11 | 2/24/00 | 14-1-11 | 8/10/00 |
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| 14-1-13 | 2/24/00 | 14-1-13 | 8/10/00 |
| 14-1-14 | 2/24/00 | 14-1-14 | 2/24/00 |
| 14-1-15 | 2/24/00 | 14-1-15 | 8/10/00 |
| 14-1-16 | 2/24/00 | 14-1-16 | 2/24/00 |
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## Chapter 3. PILOT BRIEFING

### Section 1. GENERAL



### Section 2. PREFLIGHT PILOT BRIEFING

g. *Weather Elements.* Table 2-1-4 depicts sample phraseology for weather element contractions. Intensity refers to precipitation, not descriptors. Proximity is spoken after the phenomenon to which it refers. Descriptors are spoken ahead of weather phenomenon with the exception of "showers" which is spoken after the precipitation. Table TBL 2-1-8 contains a complete list of weather elements and appropriate phraseology.

**Examples of combining intensity, descriptors and weather phenomenon.**

| *Contractions* | *Phraseology* |
|---|---|
| BLSN | BLOWING SNOW. |
| FZDZ | FREEZING DRIZZLE. |
| FZRA | FREEZING RAIN. |
| -FZRAPL | LIGHT FREEZING RAIN, ICE PELLETS. |
| MIFG | SHALLOW FOG. |
| SHRA | RAIN SHOWERS. |
| +TSRA | THUNDERSTORM, HEAVY RAIN (SHOWERS)[1]. |
| TSRA | THUNDERSTORM, RAIN. |
| +TSRAGR | THUNDERSTORM, HEAVY RAIN, HAIL. |
| -SHRA | LIGHT RAIN SHOWERS. |
| SHSN | SNOW SHOWERS. |
| VCSH | SHOWERS IN THE VICINITY. |
| [1]Since thunderstorms imply showery precipitation, "showers" may be used to describe precipitation that accompany thunderstorms. | |

*TBL 2-1-4*

h. *Ceiling and sky coverage.*

1. Broadcast Sky Coverage in the same order as reported on the weather observation. Announce ceiling as follows: (See TBL 2-1-5.)

**Ceiling and Sky coverage**

| *Designator* | *Phraseology* |
|---|---|
| BKN000[1] | SKY PARTIALLY OBSCURED. |
| BKN000[2] | CEILING LESS THAN FIVE ZERO BROKEN. |
| FEW000[1] | SKY PARTIALLY OBSCURED. |
| FEW000[2] | FEW CLOUDS AT LESS THAN FIVE ZERO. |
| SCT000[1] | SKY PARTIALLY OBSCURED. |
| SCT000[2] | LESS THAN FIVE ZERO SCATTERED. |
| (lowest layer aloft) BKN/ OVC | (precede with) CEILING. |
| VV | INDEFINITE CEILING. |
| [1] Surface-based obscurations. Requires remarks, i.e. RMK FG SCT000, FU BKN000, etc. [2] No remark means the layer is aloft. | |

*TBL 2-1-5*

2. State cloud heights in tens, hundreds and/or thousands of feet. (See TBL 2-1-6.)

**Cloud heights**

| *Number* | *Phraseology* |
|---|---|
| 000[1] | ZERO. |
| 003 | THREE HUNDRED. |
| 018 | ONE THOUSAND EIGHT HUNDRED. |
| 200 | TWO ZERO THOUSAND. |
| [1] Spoken as zero only when used with VV. | |

*TBL 2-1-6*

***NOTE-***
*When the ceiling is less than 3,000 feet and variable, the variable limits will be reported in the remarks.*

3. Announce sky conditions as indicated. (See TBL 2-1-7.)

**Sky conditions**

| *Contraction* | *Phraseology* |
|---|---|
| BKN | (height) BROKEN. |
| CLR[1] | CLEAR BELOW ONE TWO THOUSAND. |
| FEW | FEW CLOUDS AT (height). |
| SCT | (height) SCATTERED. |
| SKC | CLEAR. |
| OVC | (height) OVERCAST. |
| [1] Automated weather reports. | |

*TBL 2-1-7*

## Weather Elements

| QUALIFIER | | | | WEATHER PHENOMENA | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| INTENSITY or PROXIMITY 1 | | DESCRIPTOR 2 | | PRECIPITATION 3 | | OBSCURATION 4 | | OTHER 5 | |
| - | Light | **MI** | Shallow | **DZ** | Drizzle | **BR** | Mist | **PO** | Well-Developed Dust/Sand Whirls |
| | | **BC** | Patchy | **RA** | Rain | **FG** | Fog | **SQ** | Squalls |
| | Moderate (No Qualifier) | **DR** | Low Drifting | **SN** | Snow | **FU** | Smoke | **FC**<br>**+FC** | Funnel Cloud,<br>Tornado or Waterspout |
| | | **BL** | Blowing | **SG** | Snow Grains | **DU** | Dust | **SS** | Sandstorm |
| + | Heavy | **SH** | Showers | **IC** | Ice Crystals | **SA** | Sand | **DS** | Duststorm |
| | | **TS** | Thunderstorm | **PL** | Ice Pellets | **HZ** | Haze | | |
| **VC** | In the Vicinity | **FZ** | Freezing | **GR** | Hail | **PY** | Spray | | |
| | | **PR** | Partial | **GS** | Small Hail or Snow Pellets (< 1/4") | **VA** | Volcanic Ash | | |
| | | | | **UP** | *Unknown Precipitation | | | | |

*** Automated stations only.**

*TBL 2-1-8*

# Section 2. FLIGHT PLAN PROPOSALS

## 6-2-1. FLIGHT PLAN RECORDING

Record flight plans on FAA Form 7233-1 or on M1FC Domestic Flight Plan Mask. Completion of all blocks or fields is not required in every case, and all items filed are not always transmitted. Use authorized abbreviations where possible. Fill in the form/mask as follows:

a. *Item 1.* Type of flight plan.

1. FAA Form 7233-1. Check the appropriate box.

2. M1FC- FR: field.

(a) **V** - civilian VFR flight plans.

(b) **MV** - military VFR flight plans.

(c) **PV** - VFR flight plans departing from outside the facility's flight plan area.

(d) **DV** - DVFR flight plans. M1FC will accept DV flight plans only as a proposal addressed to an ARTCC.

(e) **I** - civil IFR flight plans or military IFR flight plans that do not require transmission of a flight notification message.

(f) **MI** - military IFR flight plans that require a flight notification message.

(g) **PI** - IFR flight plans departing from outside the facility's flight plan area that require a flight notification message.

*NOTE-*
*PI for transborder flights that require an ADCUS flight notification message. PI messages are addressed to the departure tie-in station. They are in addition to the I message transmitted to the departure ARTCC. Remarks to be transmitted by the departure station as part of the flight notification message must be included in the PI message and preceded by a $ sign.*

(h) **SC** - Stereo flight plans for civil aircraft.

(i) **SM** - Stereo flight plans for military aircraft.

b. *Item 2.* Aircraft Identification (M1FC- AI: field). Enter as follows, but do not exceed seven alphanumeric characters:

1. Civil Aircraft Including Air Carrier: Aircraft letter/digit registration including the letter **T** prefix for air taxi aircraft, the letter **L** for LIFEGUARD aircraft, or the three-letter aircraft company designator specified in FAAO 7340.1 followed by the trip or the flight number.

*EXAMPLE-*
*N12345*
*TN5552Q*
*AAL192*
*LN751B*

*NOTE-*
*The letter L shall not be entered in Item 2 of the flight plan for air carrier or air taxi LIFEGUARD aircraft. Include the word LIFEGUARD in the remarks section of the flight plan.*

2. U.S. Military Aircraft. Use the military abbreviation followed by the last five digits of the aircraft's number. For certain tactical mission aircraft, enter the assigned three-to-six letter code word followed by a one-to-four digit number. (See TBL 6-2-1.)

**Military**

| *Abbreviation* | *Military Service* |
|---|---|
| A | USAF |
| C | Coast Guard |
| E | Air Evacuation |
| G | Air/Army National Guard |
| L | LOGAIR (USAF contract) |
| R | Army |
| RCH | REACH (USAF Air Mobility Command) |
| S | Special Air Mission |
| VM | Marine Corps |
| VV | Navy |

*TBL 6-2-1*

3. Canadian Military Aircraft. The abbreviations shall be followed by a number group not to exceed four digits. (See TBL 6-2-2.)

**Canadian Military**

| *Abbreviation* | *Military Service* |
|---|---|
| CAF | Canadian Armed Force |
| CTG | Canadian Coast Guard |

*TBL 6-2-2*

c. *Item 3.* Aircraft Type (M1FC- AT: field). Insert the name or abbreviation (two-to-four alphanumeric characters) of the manufacturer's or military designation. For homebuilt/experimental aircraft, use HXA, HXB, or HXC in accordance with the FAAO 7340.1. Spell out aircraft type in Remarks.

1. Prefix to Aircraft Type (one-to-two alphanumeric characters). Indicate for IFR operations if the

aircraft is equipped with TCAS equipment and/or the aircraft's weight class if it is heavy. The prefix for TCAS is T; for a heavy aircraft the prefix is H; for both TCAS and heavy the prefix is B; e.g. H/B727, T/B727, or B/DC10. If a formation flight is planned, enter the number and type of aircraft; e.g., 8/B52.

2. Suffix to Aircraft Type (one alpha character). Indicate for IFR operations the aircraft's radar transponder, DME, or RNAV (includes LORAN) capability by adding the appropriate symbol preceded by a slant (/). (See TBL 6-2-3.)

**Suffix to Aircraft Type**

| *Suffix* | *Aircraft Equipment Suffixes* |
|---|---|
| | **DME** |
| /A | Transponder with Mode C. |
| /B | Transponder with no Mode C. |
| /D | No transponder. |
| | **NO DME** |
| /T | Transponder with no Mode C. |
| /U | Transponder with Mode C. |
| /X | No transponder. |
| | **TACAN ONLY** |
| /M | No transponder. |
| /N | Transponder with no Mode C. |
| /P | Transponder with Mode C. |
| | **AREA NAVIGATION (RNAV)** |
| /C | LORAN, VOR/DME, or INS, transponder with no Mode C. |
| /I | LORAN, VOR/DME, or INS, transponder with Mode C. |
| /Y | LORAN, VOR/DME, or INS with no transponder. |
| | **ADVANCED RNAV With Transponder and Mode C** (If an aircraft is unable to operate with a transponder and/or Mode C, it will revert to the appropriate code listed above under Area Navigation.) |
| /E | FMS with en route, terminal, and approach capability. Equipment requirements are:<br>a. Dual FMS which meets the specifications of AC25-15, Approval of Flight Management Systems in Transport Category Airplanes; AC20-129, Airworthiness Approval of Vertical Navigation (VNAV) Systems for use in the U.S. NAS and Alaska; AC20-130, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors; or equivalent criteria as approved by Flight Standards.<br>b. A flight director and autopilot control system capable of following the lateral and vertical FMS flight path.<br>c. At least dual inertial reference units (IRU's).<br>d. A database containing the waypoints and speed/altitude constraints for the route and/or procedure to be flown that is automatically loaded into the FMS flight plan.<br>e. An electronic map.<br>(U.S. and U.S. territories only unless otherwise authorized) |
| /F | A single FMS with en route, terminal, and approach capability that meets the equipment requirements of /E, a through d above. (U.S. and U.S. territories only unless otherwise authorized) |
| /G | Global Positioning System (GPS)/Global Navigation Satellite System (GNSS) equipped aircraft with en route and terminal capability. |
| /Q | Required Navigation Performance (RNP) and Reduced Vertical Separation Minima (RVSM) {indicates approval for application of RNP and RVSM separation standards}. It should be noted that /Q is for automation purposes only and will not be filed by system users. FAA processors will convert the combination of /R+/W to =/Q. |
| /R | Required Navigational Performance. (Denotes capability to operate in RNP designated airspace and routes.) |
| /W | Reduced Vertical Separation Minima (RVSM). |

*TBL 6-2-3*

***NOTE-***
*The /E and /F suffixes will only be used by aircraft*

*operating to and from airports within the U.S., unless authorized by the controlling authority.*

*REFERENCE-*
*FAAO 7110.65, Air Traffic Control, Para 2-3-7 and TBL 2-3-3.*

**d.** *Item 4.* True Airspeed (TAS Knots) (M1FC- TS: field). Enter two-to-four digits for TAS in knots; M followed by three digits for Mach number; or SC for "speed classified."

**e.** *Item 5.* Departure Point (M1FC- DD: field). Enter two-to-twelve alphanumeric and slant characters for name or identifier of the departure airport or point over which the flight plan is activated.

*NOTE-*
*Names may be used when there is no identifier available and they do not exceed 12 characters with no spaces. Unless a geographic point is converted to latitude/longitude or fix-radial-distance (FRD), the M1FC computer will not be able to provide weather/NOTAM information and the route override function must be used to transmit or modify the flight plan.*

**f.** *Item 6.* Departure Time (M1FC- TM: field). Enter departure time in UTC. Prefix this time with a P in the TM: field for proposals or a D for departures. If the departure time is assumed, indicate this in the Remarks field.

**g.** *Item 7.* Cruising Altitude (M1FC- AE: field). Proposed altitude or flight level using two-to-seven characters; e.g., 80 or 080, OTP, OTP/125, VFR, ABV/060.

**h.** *Item 8.* Route of Flight (M1FC- RT: field). Enter identifiers for airways or jet routes to clearly indicate the proposed flight path. For direct flight, use names or identifiers of navigation aids and geographical points or coordinates. If more than one airway or jet route is to be flown, clearly indicate the transition points.

*NOTE-*
*On some direct flights beyond the departure center's airspace, it may be necessary to include a fix in the adjacent center's airspace or latitude/longitude coordinates, as appropriate, to facilitate computer acceptance. Local procedures should be applied to these special situations.*

**i.** *Item 9.* Destination (M1FC- DD: field). Enter two-to-twelve alphanumeric and/or slant characters for name or identifier of the destination airport or point over which the flight plan is to be cancelled.

**j.** *Item 10.* Estimated Time En Route (M1FC- TE: field). Enter in hours and minutes the total elapsed time between departure and destination; e.g., 0430 or 4+30. For IFR proposals, ETE must be in four-digit format; i.e. 0215.

**k.** *Item 11.* Remarks (M1FC- RM: field). Information necessary for ATC or to assist search and rescue operations, plus any other data appropriate to the flight; e.g., the abbreviations FAA or DOT. Enter names of experimental or homebuilt aircraft (Veri-EZ, Long-EZ, Mustang, Delta Dart). For RM: field only - Use 1-80 characters beginning with *, #, $, or %. (See TBL 6-2-4.)

| | |
|---|---|
| * | transmit remarks to all centers. |
| # | transmit remarks to departure centers only. |
| $ | transmit remarks only to those addresses in the CP field of the flight notification message. |
| % | for remarks not to be transmitted. |

*TBL 6-2-4*

*NOTE-*
*Civil aircraft with authorized company identification are required to file the full authorized radio call in remarks.*

**l.** *Item 12.* Fuel on Board (M1FC- FB: field). Enter in hours and minutes; e.g., 0330 or 3+30.

**m.** *Item 13.* Alternate Airport/s (M1FC- AA: field). Enter the location identifier if specified by the pilot. For AA: field only. Use three-to-seven alphanumeric characters. For two alternate airports, enter identifiers consecutively; e.g., BJCFNL.

**n.** *Item 14.* Pilot's Name, Telephone Number, Aircraft's Home Base (M1FC- PD: field). Self-explanatory. For military pilots, obtain the name and telephone of BASOPS.

*NOTE-*
*Pilot's name not required if BASOPS' name is provided.*

**o.** *Item 15.* Number Aboard (M1FC- NB: field). Self-explanatory.

**p.** *Item 16.* Color of Aircraft. (M1FC- CR: field). Use authorized contractions when available. (See TBL 6-2-5.)

**Code and Color**

| *Code* | *Color* | | *Code* | *Color* |
|---|---|---|---|---|
| A | Amber | | B | Blue |
| BE | Beige | | BK | Black |
| BR | Brown | | G | Green |
| GD | Gold | | GY | Gray |
| M | Maroon | | O | Orange |
| P | Purple | | PK | Pink |
| R | Red | | S | Silver |
| T | Tan | | TQ | Turquoise |
| V | Violet | | W | White |
| Y | Yellow | | | |

*TBL 6-2-5*

*NOTE-*
*1. For ICAO flight plans, see Appendix B.*

*2. Local procedures may be developed for use on the reverse side of FAA Form 7233-1.*

## 6-2-2. OUTBOUNDS DEPARTING FROM OUTSIDE FLIGHT PLAN AREA

Accept flight plans regardless of departure point. Forward VFR flight plan proposals for aircraft proposing to depart from outside the facility's flight plan area to the tie-in FSS/AFSS for the departure point in the following format:

**a.** Type of Flight.

**b.** Aircraft Identification.

**c.** Aircraft Type.

**d.** Departure Point.

**e.** Destination.

**f.** Proposed Departure Time/ETE.

**g.** Remarks.

*EXAMPLE-*
*/B*
*FF KDAYYFYX*
*DTG KBWGYFYX*
*VFR N1234 BE90 DAY LOU P1330/0130*

*M1FC*
*FR:PV AI:N1234 AT:C150 TS:90 DD:DSM TM:P1800*
*AE:65 RT:DSM..OMA..LNK*
*AD:LNK TE:0300 RM:$FP KIKKYFYX*
*FB:0330 AA: PD:JOE PILOT*
*HB:DSM NB: CR:R/W TL:*
*OP:*
*CP:KFODYFYX*
*TA:2100*

*NOTE-*
*1. M1FC will autoaddress the CP field, automatically extract the required items from the flight plan mask and transmit a flight proposal to the departure tie-in AFSS/FSS.*

*M1FC will automatically fill in the originator of the flight plan in the RM field when the flight plan is transmitted.*

*2. For civil flight movement messages with remarks, precede the remarks with a dollar symbol ($).*

## 6-2-3. ALASKA SPECIAL INSTRUCTIONS

All flight plans, departures (including intermediate departures) or arrivals, on an FAA aircraft, will be given normal distribution plus PANCYAYI whether VFR or IFR.

*EXAMPLE-*
*/B*
*FF PANCYAYI*
*DTG PAENYFYX*
*N123 D1345*

*/B*
*FF PANCYAYI*
*DTG PAENYFYX*
*N123 ENA A1345 ANC*

## 6-2-4. M1FC ENTRY OF MILITARY IFR MULTI-LEG STOPOVER FLIGHT PLAN

**a.** Complete all FP fields down through time en route or remarks for the first leg. Use MI in the flight rules field. This will hold the flight plan on the proposed list for flight notification.

**b.** All subsequent legs shall be preceded by a slant and recorded in the route field after the first leg: DESTINATION, ETE, AIRSPEED, P-TIME, ALTITUDE, ROUTE, and remarks for each leg.

# Chapter 14. PHRASEOLOGY

## Section 1. GENERAL

### 14-1-1. PURPOSE

This chapter prescribes standardized procedures and phraseologies to be used by flight service personnel when communicating weather and aeronautical information in broadcast, radiotelephone, and interphone communications. Where position or procedure-specific phraseology is required, reference is to be made to the relevant chapter of this order.

### 14-1-2. PHRASEOLOGY

The annotation PHRASEOLOGY denotes the prescribed words and/or phrases to be used in communications.

*NOTE-*
*Specialists may, after first using the prescribed phraseology for a specific procedure, rephrase the message to ensure the content is understood. Good judgment shall be exercised when using nonstandard phraseology.*

### 14-1-3. WORDS AND PHRASES

Use the words or phrases in broadcast, radiotelephone, and interphone communications as contained in the Pilot/Controller Glossary.

### 14-1-4. ANNOUNCING MISSING ITEMS

With the exception of RVR, announce the word "missing" when any item or component of a weather report is not reported, or in place of unreadable or obviously incorrect items or portions of weather reports. When appropriate, instead of speaking the name of several locations with missing reports, announce: "Other scheduled reports missing."

*NOTE-*
*On occasion, a parameter from an automated observation may be reported as missing in the body of the report but is available as a manually reported parameter in the remarks section. When the report is spoken, include the manually reported element in its proper sequence within the report.*

### 14-1-5. ICAO PHONETICS

Use the ICAO pronunciation of numbers and, as necessary, individual letters for clarity. The ICAO radiotelephony alphabet and pronunciation guide are contained in TBL 14-1-1.

**ICAO Pronunciation**

| *Character* | *Word* | *Pronunciation* |
|---|---|---|
| 0 | Zero | ZEE-RO |
| 1 | One | WUN |
| 2 | Two | TOO |
| 3 | Three | TREE |
| 4 | Four | **FOW**-ER |
| 5 | Five | FIFE |
| 6 | Six | SIX |
| 7 | Seven | **SEV**-EN |
| 8 | Eight | AIT |
| 9 | Nine | **NIN**-ER |
| A | Alfa | **AL**-FAH |
| B | Bravo | **BRAH**-VOH |
| C | Charlie | **CHAR**-LEE |
| D | Delta | **DELL**-TAH |
| E | Echo | **ECK**-OH |
| F | Foxtrot | **FOKS**-TROT |
| G | Golf | GOLF |
| H | Hotel | HOH-**TELL** |
| I | India | **IN**-DEE-AH |
| J | Juliett | **JEW**-LEE-ETT |
| K | Kilo | **KEY**-LOH |
| L | Lima | **LEE**-MAH |
| M | Mike | MIKE |
| N | November | NO-**VEM**-BER |
| O | Oscar | **OSS**-CAR |
| P | Papa | PAH-**PAH** |
| Q | Quebec | KEH-**BECK** |
| R | Romeo | **ROW**-ME-OH |
| S | Sierra | SEE-**AIR**-AH |
| T | Tango | **TANG**-GO |
| U | Uniform | **YOU**-NEE-FORM |
| V | Victor | **VIK**-TAH |
| W | Whiskey | **WISS**-KEY |
| X | X-ray | **ECKS**-RAY |
| Y | Yankee | **YANG**-KEY |
| Z | Zulu | **ZOO**-LOO |

*TBL 14-1-1*

*NOTE-*
*Syllables to be emphasized in pronunciation are in bold face.*

## 14-1-6. RELAY OF ATC COMMUNICATIONS

Prefix a clearance, information, or a request for information which will be relayed from a control facility to an aircraft with the appropriate phrase "A-T-C clears," "A-T-C advises," or "A-T-C requests."

## 14-1-7. EXPEDITIOUS COMPLIANCE

a. Use the word "immediately" only when expeditious compliance is required to avoid an imminent situation.

b. Use the word "expedite" only when prompt compliance is required to avoid the development of an imminent situation.

c. In either case, and if time permits, include the reason for this action.

## 14-1-8. WEATHER PHRASEOLOGY

Use the following phraseology and procedures for stating surface weather observations and for information similarly encoded in other aviation weather products and forecasts.

a. Location.

1. Announce the geographic name (not the identifier) once for communications.

***EXAMPLE-***
*"Paducah."*

2. When the location name is duplicated within 500 miles, follow the location name with the state name.

***EXAMPLE-***
*"Columbus, Ohio."*

3. When weather reports originate at more than one airport at the same geographical location, identify the airport.

***EXAMPLE-***
*"Anchorage, Anchorage Merrill."*
*"Chicago O'Hare."*

4. Where it is considered necessary and is requested by the military base commander, broadcast military observations by stating the location, the name of the airport if different, and the controlling military branch.

***EXAMPLE-***
*"Andrews Air Force Base."*
*"Elmendorf, Elmendorf Air Force Base."*
*"Fort Riley, Marshall Army Air Field."*
*"Norfolk Naval Air Station."*

b. If AUTO appears after the date/time element, follow location announcement with the phrase AUTOMATED.

***PHRASEOLOGY-***
*(Location) AUTOMATED.*

c. If a special report is the most recent observation available, follow the location with the words SPECIAL REPORT, (last two digits of the time) OBSERVATION. Use data from the record report to fill in the items not included in the special observation, such as temperature and dew point.

d. If the weather data is not available, state the location and the word MISSING.

e. Wind Direction and Speed. Announce surface wind direction and speed by stating the word WIND followed by the separate digits of the wind direction to the nearest 10 degrees and the separate digits of the speed. A "G" between two wind speed values is announced as GUSTS. State local wind as it appears in the report. Announce the variability of wind at the end of the wind group. (See TBL 14-1-2.)

**Wind Direction and Speed**

| *Wind* | *Phraseology* |
|---|---|
| 00000KT | WIND CALM. |
| 26012KT | WIND TWO SIX ZERO AT ONE TWO. |
| 29012KT 260V320 | WIND TWO NINER ZERO AT ONE TWO WIND VARIABLE BETWEEN TWO SIX ZERO AND THREE TWO ZERO. |
| 30008KT | WIND THREE ZERO ZERO AT EIGHT. |
| 36012G20KT | WIND THREE SIX ZERO AT ONE TWO GUSTS TWO ZERO. |
| VRB04KT | WIND VARIABLE AT FOUR. |

*TBL 14-1-2*

f. Visibility.

1. State the word VISIBILITY followed by the visibility values in miles and/or fractions of miles, except announce values indicated by the figure 0 as ZERO. Announce the separate digits of whole numbers as applicable. (See TBL 14-1-3.)

**Visibility**

| *Contraction* | *Phraseology* |
|---|---|
| 0SM | Visibility zero. |
| 1/16SM | Visibility one sixteenth. |
| 1/8SM | Visibility one eighth. |
| M1/4SM | Visibility less than one quarter. |
| 3/4SM | Visibility three quarters. |
| 1 1/2SM | Visibility one and one-half. |
| 8SM | Visibility eight. |
| 25SM | Visibility two five. |

*TBL 14-1-3*

***NOTE-***
*When visibility is less than 3 miles and variable, this information is reported in the remarks.*

2. When stating AUTOB visibility values, announce the visibility in accordance with the reportable categories depicted in TBL 14-1-4 and TBL 14-1-5.

**Visibility Reading**

| *Reading* | *Visibility Values* |
|---|---|
| 0 | less than 15/16 |
| 1 | 1 - 1 7/8 |
| 2 | 2 - 2 7/8 |
| 3 | 3 - 3 1/2 |
| 4 | 3 1/2 - 4 1/2 |
| 5 | 4 1/2 - 5 1/2 |
| 6 | 5 1/2 - 6 1/2 |
| 7 | 6 1/2 - 7 1/2 |
| 8 | above 7 1/2 |

*TBL 14-1-4*

**Visibility Reading**

| *Reading* | *Phraseology* |
|---|---|
| BV0 | "Visibility less than fifteen sixteenths." |
| BV3 | "Visibility three to three and one-half." |
| BV8 | "Visibility more than seven and one-half." |

*TBL 14-1-5*

3. If an AUTOB visibility report consisting of three values is encountered, it is decoded as depicted below.

***EXAMPLE-***
*"BV786"*
*6 = minimum visibility during past 10 minutes.*
*7 = present visibility.*
*8 = maximum visibility during past 10 minutes.*

g. RVR/RVV.

1. Provide RVR/RVV information by stating the runway, "visual range" or "visibility value," as appropriate, and the indicated value. The abbreviations "R-V-R" or "R-V-V" may be spoken in lieu of "visual range" or "visibility value." When the indicated values are separated by a V, preface the values with the words VARIABLE BETWEEN, followed by the first value, the word AND, then the second value. (See TBL 14-1-6.)

**RVR/RVV**

| *RVR/RVV* | *Phraseology* |
|---|---|
| R36VV11/2 | "Runway three six, R-V-V one and one-half." |
| R05LVV1V2 | "Runway five left, R-V-V variable between one and two." |
| R18/2000V3000FT | "Runway one eight, R-V-R variable between two thousand and three thousand. Or Runway one eight visual range variable between two thousand and three thousand." |
| R26R/2400FT | "Runway two six right visual range two thousand four hundred." |

*TBL 14-1-6*

2. When there is a requirement to issue an RVR or RVV value and a visibility condition greater or less than the reportable values of the equipment is indicated, state the condition as MORE THAN or LESS THAN the appropriate minimum or maximum readable value. (See TBL 14-1-7.)

**RVR/RVV**

| *RVR/RVV* | *Phraseology* |
|---|---|
| R16/M0600FT | "Runway one six runway visual range less than six hundred. Or Runway one six R-V-R less than six hundred." |
| R36L/M0600V2500FT | "Runway three six left, R-V-R variable between less than six hundred and two thousand five hundred. Or Runway three six left visual range variable between less than six hundred and two thousand five hundred." |
| R36/P6000FT | "Runway three six R-V-R more than six thousand. Or Runway three six visual range more than six thousand." |

*TBL 14-1-7*

**h.** Weather Elements. TBL 14-1-8 depicts sample phraseology for weather element contractions. Intensity refers to precipitation, not descriptors. Proximity is spoken after the phenomenon to which it refers. Descriptors are spoken ahead of weather phenomenon with the exception of "showers" which is spoken after the precipitation. TBL 14-1-9 contains a complete list of weather elements and appropriate phraseology.

**i.** Ceiling and Sky Coverage.

**1.** State sky coverage in the same order as reported on the weather observation. Announce ceiling as follows: (See TBL 14-1-10.)

**Examples of Combining Intensity, Descriptors and Weather Phenomenon.**

| *Contractions* | *Phraseology* |
|---|---|
| BLSN | BLOWING SNOW |
| -FZRAPL | LIGHT FREEZING RAIN, ICE PELLETS |
| FZRA | FREEZING RAIN |
| FZDZ | FREEZING DRIZZLE |
| MIFG | SHALLOW FOG |
| -SHRA | LIGHT RAIN SHOWERS |
| SHRA | RAIN SHOWERS |
| SHSN | SNOW SHOWERS |
| TSRA | THUNDERSTORM, RAIN |
| +TSRA | THUNDERSTORM, HEAVY RAIN (SHOWERS)[1] |
| +TSRAGR | THUNDERSTORM, HEAVY RAIN, HAIL |
| VCSH | SHOWERS IN THE VICINITY |

[1]Since thunderstorms imply showery precipitation, "showers" may be used to describe precipitation that accompany thunderstorms.

*TBL 14-1-8*

**Weather Elements**

| INTENSITY or PROXIMITY 1 | | DESCRIPTOR 2 | | PRECIPITATION 3 | | OBSCURATION 4 | | OTHER 5 | |
|---|---|---|---|---|---|---|---|---|---|
| - | Light | MI | Shallow | DZ | Drizzle | BR | Mist | PO | Well-Developed Dust/Sand Whirls |
| | | BC | Patchy | RA | Rain | FG | Fog | SQ | Squalls |
| | Moderate (No Qualifier) | DR | Low Drifting | SN | Snow | FU | Smoke | FC | Funnel Cloud, |
| | | | | | | | | +FC | Tornado or Waterspout |
| | | BL | Blowing | SG | Snow Grains | DU | Dust | SS | Sandstorm |
| + | Heavy | SH | Showers | IC | Ice Crystals | SA | Sand | DS | Duststorm |
| | | TS | Thunderstorm | PL | Ice Pellets | HZ | Haze | | |
| VC | In the Vicinity | FZ | Freezing | GR | Hail | PY | Spray | | |
| | | PR | Partial | GS | Small Hail or Snow Pellets (< 1/4") | VA | Volcanic Ash | | |
| | | | | UP | *Unknown Precipitation | | | | |

*** Automated stations only.**

*TBL 14-1-9*

**Ceiling and Sky Coverage**

| *Designator* | *Phraseology* |
|---|---|
| BKN000[1] | SKY PARTIALLY OBSCURED |
| BKN000[2] | CEILING LESS THAN FIVE ZERO BROKEN |
| FEW000[1] | SKY PARTIALLY OBSCURED |
| FEW000[2] | FEW CLOUDS AT LESS THAN FIVE ZERO |
| (lowest layer aloft) BKN/ OVC | (precede with) CEILING |
| SCT000[1] | SKY PARTIALLY OBSCURED |
| SCT000[2] | LESS THAN FIVE ZERO SCATTERED |
| VV | INDEFINITE CEILING |

[1] Surface-based obscurations. Requires remarks, i.e. RMK FG SCT000, FU BKN000, etc.

[2] No remark means the layer is aloft.

*TBL 14-1-10*

2. State cloud heights in tens, hundreds and/or thousands of feet. (See TBL 14-1-11.)

**Cloud Heights**

| *Number* | *Phraseology* |
|---|---|
| 000[1] | ZERO |
| 003 | THREE HUNDRED |
| 018 | ONE THOUSAND EIGHT HUNDRED |
| 200 | TWO ZERO THOUSAND |

[1] Spoken as zero only when used with VV.

*TBL 14-1-11*

*NOTE-*
*1. When the ceiling is less than 3,000 feet and variable, the variable limits will be reported in the remarks.*

*2. When communicating weather information on the TIBS broadcast or telephone, specialist may announce cloud heights in either group form or in hundreds or thousands of feet, such as seventeen thousand or one seven thousand.*

3. Announce sky conditions as indicated below. (See TBL 14-1-12.)

**Sky Conditions**

| *Contraction* | *Phraseology* |
|---|---|
| BKN | (height) BROKEN |
| CLR[1] | CLEAR BELOW ONE TWO THOUSAND |
| FEW | FEW CLOUDS AT (height) |
| OVC | (height) OVERCAST |
| SCT | (height) SCATTERED |
| SKC | CLEAR |

[1] Automated weather reports.

*TBL 14-1-12*

4. The following are examples of broadcast phraseology of sky and ceiling conditions: (See TBL 14-1-13.)

**Sky and Ceiling Conditions**

| *Condition* | *Phraseology* |
|---|---|
| BKN000 BKN010 BKN050 RMK FG BKN000 | SKY PARTIALLY OBSCURED, CEILING ONE THOUSAND BROKEN, FIVE THOUSAND BROKEN. FOG OBSCURING FIVE TO SEVEN EIGHTS OF THE SKY. |
| BKN010 | CEILING ONE THOUSAND BROKEN. |
| SCT000 SCT020 OVC035 RMK FG SCT000 | SKY PARTIALLY OBSCURED, TWO THOUSAND SCATTERED, CEILING THREE THOUSAND FIVE HUNDRED OVERCAST. FOG OBSCURING THREE TO FOUR EIGHTS OF THE SKY. |
| SCT020 OVC250 | TWO THOUSAND SCATTERED, CEILING TWO FIVE THOUSAND OVERCAST. |
| VV000 | INDEFINITE CEILING ZERO. |
| VV012 | INDEFINITE CEILING ONE THOUSAND TWO HUNDRED. |

*TBL 14-1-13*

j. Announce surface temperature and dew point by stating the words TEMPERATURE or DEWPOINT, as appropriate, followed by the temperature in degrees Celsius. Temperatures below zero are announced by prefixing the word MINUS before the values. (See TBL 14-1-14.)

**Temperature/Dewpoint**

| *Reading* | *Phraseology* |
|---|---|
| 02/M01 | "Temperature two, dew point minus one." |
| 04/02 | "Temperature four, dew point two." |
| 18/13 | "Temperature one eight, dew point one three." |

*TBL 14-1-14*

k. Altimeter Setting.

1. State the word ALTIMETER followed by the four digits of the altimeter setting. (See TBL 14-1-15.)

**Altimeter Setting**

| *Altimeter Setting* | *Phraseology* |
|---|---|
| A2989 | "Altimeter two niner eight niner." |
| A3001 | "Altimeter three zero zero one." |
| A3025 | "Altimeter three zero two five." |

*TBL 14-1-15*

2. Identify the source of all altimeter settings when issued, if not given as part of an identified surface

observation. Provide the time of the report if more than one hour old.

***PHRASEOLOGY-***
*(airport name) (time of report if more than one hour old) ALTIMETER (setting).*

3. If a request for the altimeter setting in MILLIBARS is received, announce the separate digits of the millibar equivalent value, using the millibar conversion chart, followed by the word MILLIBARS. If the millibar setting is not a whole number, always round down. (See TBL 14-1-16.)

***REFERENCE-***
*Subpara 4-3-5f*

**Millibar Conversion**

| *Millibar Conversion* | *Phraseology* |
|---|---|
| 956.3 | "Altimeter niner five six millibars." |
| 1002.0 | "Altimeter one zero zero two millibars." |
| 1058.9 | "Altimeter one zero five eight millibars." |

***TBL 14-1-16***

4. When altimeter is in excess of 31.00:

(a) Advise all aircraft.

***PHRASEOLOGY-***
*"ALTIMETER IN EXCESS OF THREE ONE ZERO ZERO. HIGH PRESSURE ALTIMETER PROCEDURES ARE IN EFFECT."*

(b) Advise VFR aircraft to set altimeter to 31.00 en route.

***PHRASEOLOGY-***
*"RECOMMEND YOU SET ALTIMETER THREE ONE ZERO ZERO EN ROUTE."*

## 14-1-9. WEATHER REMARKS

Announce pertinent remarks from surface weather observations in accordance with FAAO 7340.1, Contractions, and as shown in the following tables. Do not state additive data or other information intended for NWS analysis or processing that does not contribute to the description of the conditions occurring at the station.

a. SKY AND CEILING. (See TBL 14-1-17.)

**Sky and Ceiling**

| *Contraction* | *Phraseology* |
|---|---|
| CIG 005V010 | "Ceiling variable between five hundred and one thousand." |
| CIG 020 RY11 | "Ceiling two thousand at runway one one." |
| CB N MOV E | "Cumulonimbus north moving east." |
| CBMAM DSNT S | "Cumulonimbus mammatus distant south." |
| CLDS TPG MT SW | "Clouds topping mountain southwest." |
| CONTRAILS N FL420 | "Condensation trails north at flight level four two zero." |
| FRQ LTG VC | "Frequent lightning in the vicinity." |
| LWR CLDS NE | "Lower clouds northeast." |
| OCNL LTGICCG NW | "Occasional lightning in cloud and cloud to ground northwest." |
| RDGS OBSCD W-N | "Ridges obscured west through north." |

***TBL 14-1-17***

b. Obscuring Phenomena. (See TBL 14-1-18.)

**Obscuring Phenomena**

| *Contraction* | *Phraseology* |
|---|---|
| BLSN SCT000 | "Blowing snow obscuring three to four-eights of the sky." |
| DU BKN000 | "Dust obscuring five to seven-eights of the sky." |
| FG FU FEW000 | "Fog and smoke obscuring one to two-eights of the sky." |
| FU SCT020 | "Smoke layer two thousand scattered." |
| SN BKN000 | "Snow obscuring five to seven-eights of the sky." |

***TBL 14-1-18***

c. Visibility. (See TBL 14-1-19.)

**Visibility**

| *Contraction* | *Phraseology* |
|---|---|
| SFC VIS 1/2 | "Surface visibility one-half." |
| SFC VIS 15 TWRINC | "Surface visibility one five, tower in clouds." |
| TWR VIS 3/4 | "Tower visibility three-quarters." |
| VIS S 1 W 1/4 | "Visibility south one, west one-quarter." |
| VIS 1V3 | "Visibility variable between one and three." |

***TBL 14-1-19***

**d.** Weather and obstruction to visibility. (See TBL 14-1-20.)

**Weather and Obstruction**

| *Contraction* | *Phraseology* |
|---|---|
| BCFG S | "Patchy fog south." |
| DUST DEVILS NW | "Dust devils northwest." |
| FG DSIPTG | "Fog dissipating." |
| FU DRFTG OVR FLD | "Smoke drifting over field." |
| FUOCTY | "Smoke over city." |
| GR 2 | "Hailstones two inches in diameter." |
| INTMT -RA | "Intermittent light rain." |
| OCNL LTG DSNT NW | "Occasional lightning distant northwest." |
| OCNL SHRA | "Occasional moderate rain showers." |
| -RA OCNLY +RA | "Light rain occasionally heavy." |
| RAB30 | "Rain began at three zero." |
| SNB15E40 | "Snow began at one five, ended at four zero." |
| SHRA | "Rain showers." |
| SNINCR 5/10 | "Snow increase five inches during past hour, ten inches on the ground." |
| TS OHD MOV E | "Thunderstorm overhead, moving east." |
| TS W MOV E FRQ LTGCG | "Thunderstorm west moving east, frequent lightning cloud to ground." |
| UNCONFIRMED TORNADO 15W OKC MOV NE 2015 | "Unconfirmed tornado one five west of Oklahoma City, moving northeast sighted at two zero one five zulu." |
| WET SN | "Wet snow." |

*TBL 14-1-20*

**e.** Wind. (See TBL 14-1-21.)

**Wind**

| *Contraction* | *Phraseology* |
|---|---|
| PK WND 33048/22 | "Peak wind three three zero at four eight occurred at two two past the hour." |
| WSHFT 30 | "Wind shifted at three zero." |

*TBL 14-1-21*

**f.** Pressure. (See TBL 14-1-22.)

**Pressure**

| *Contraction* | *Phraseology* |
|---|---|
| PRESFR | "Pressure falling rapidly." |
| PRESRR | "Pressure rising rapidly." |

*TBL 14-1-22*

**g.** Freezing Level Data. (See TBL 14-1-23.)

**Freezing Level Data**

| *Contraction* | *Explanation* |
|---|---|
| RADAT 87045 | Relative humidity 87 percent, only crossing of zero degrees Celsius isotherm was four thousand five hundred M-S-L. |
| RADAT 87L024105 | Relative humidity 87 percent at the lowest crossing of zero degrees Celsius. Two crossings occurred at two thousand four hundred and one zero thousand five hundred M-S-L. |
| RADAT MISG | The sounding terminated below the first crossing of the zero degree Celsius isotherm. Temperatures were all above freezing. |
| RADAT ZERO | The entire sounding was below zero degrees Celsius. |

*TBL 14-1-23*

h. Icing Data. (See TBL 14-1-24.)

**Icing Data**

| *Contraction* | *Explanation* |
|---|---|
| RAICG 12 MSL | Icing at one thousand two hundred M-S-L. |
| RAICG 24 MSL SNW | Icing at two thousand four hundred M-S-L in snow. |

*TBL 14-1-24*

i. Maintenance Data. (See TBL 14-1-25.)

**Maintenance Data**

| *RVR/RVV* | *Phraseology* |
|---|---|
| PNO | "Precipitation amount not available." |
| RVRNO | "R-V-R (or runway visual range) information not available." |
| TSNO | "Thunderstorm/lightning information not available." |
| VISNO | "Visibility sensor information not available." |

*TBL 14-1-25*

## 14-1-10. WEATHER ADVISORIES

a. When announcing weather advisories, include the complete advisory description including the product name and alphanumeric identification. Specify Eastern, Central, or Western section as applicable when stating WST's.

***PHRASEOLOGY-***
*AIRMET*
*ALERT WEATHER WATCH, ONE ZERO SEVEN FOR SEVERE THUNDERSTORMS*
*CONVECTIVE SIGMET TWO SEVEN EASTERN*
*HOUSTON CENTER WEATHER ADVISORY ONE, ISSUANCE TWO*
*SIGMET WHISKEY THREE*

b. Do not read the OUTLOOK section of WST's when stating the advisory. Data contained in the OUTLOOK concerning convective activity location, movement, and intensity may be extracted for compilation in forecast summarizations.

***EXAMPLE-***
*"Convective SIGMET one seven Eastern-from five zero south of St. Petersburg to three zero south of Columbus, line of thunderstorms three five miles wide moving east at one five knots. Maximum tops four seven thousand."*

c. VNR. When VFR flight is proposed and sky conditions or visibilities are present or forecast, surface based or aloft that, in your judgment, would make visual flight doubtful, include one of the following statements:

***PHRASEOLOGY-***
*V-F-R FLIGHT NOT RECOMMENDED (location if applicable) DUE TO (conditions).*
*or*
*V-F-R NOT RECOMMENDED.*

## 14-1-11. RAREP'S

Use the following phraseology and procedures for communicating radar reports:

a. Location. Announce the geographic name (not the identifier) and the type of report. Announce the geographic name twice for broadcasts.

***EXAMPLE-***
*"Hondo radar report."*
*"Memphis, Memphis radar report."*
*"Lake Charles special radar report."*

b. When broadcasting reports, announce the last two digits of the observation time followed by the word OBSERVATION.

***EXAMPLE-***
*"Oklahoma City, Oklahoma City radar report, three five observation."*

c. State the type of echo pattern or configuration as follows: (See TBL 14-1-26.)

**Echo Pattern**

| *Contraction* | *Meaning* |
|---|---|
| AREA | Area |
| CELL | Single cell |
| FINE LN | Fine line |
| LN | Line |
| LYR | Layer |
| SPRL BAND AREA | Spiral band area |

*TBL 14-1-26*

d. State the coverage of echoes in tenths.

***EXAMPLE-***
*"Eight tenths."*

e. State the type in accordance with TBL 14-1-27, intensity in accordance with TBL 14-1-28, and intensity trend of the weather in accordance with TBL 14-1-29.

**Type**

| *Symbol* | *Meaning* |
|---|---|
| A | Hail |
| PL | Ice pellets |
| L | Drizzle |
| R | Rain |
| RW | Rain showers |
| S | Snow |
| SW | Snow showers |
| T | Thunderstorm |
| ZL | Freezing drizzle |
| ZR | Freezing rain |
| Note: Symbols used in RAREP's have not been changed to METAR symbology. | |

*TBL 14-1-27*

**Intensity**

| *Symbol* | *Intensity* |
|---|---|
| - | Light |
| (none) | Moderate |
| + | Heavy |
| ++ | Very Heavy |
| X | Intense |
| XX | Extreme |
| U | Unknown |

*TBL 14-1-28*

**Intensity Trend**

| *Symbol* | *Trend* |
|---|---|
| - | Decreasing |
| + | Increasing |
| NC | No change |
| NEW | New echo |
| Note: No intensity or trend is assigned for nonliquid precipitation. | |

*TBL 14-1-29*

**f.** Describe the area covered by stating the azimuth and range of the points defining the echo pattern. (See TBL 14-1-30.)

**Echo Pattern**

| *Coded* | *Phraseology* |
|---|---|
| 86/40 160/60 262/115 | "FROM FOUR ZERO EAST TO SIX ZERO SOUTHEAST TO ONE ONE FIVE WEST OF (radar site location)." |

*TBL 14-1-30*

**g.** State the dimensions of the echo pattern in nautical miles using separate digits. The symbol W means WIDE, and D indicates DIAMETER.

**h.** State the pattern movement referencing the direction to which the echoes are moving and the speed using separate digits. The patterns are decoded L for LINE, C for CELL, and A for AREA. (See TBL 14-1-31.)

**Direction of Movement**

| *Coded* | *Phraseology* |
|---|---|
| C3640 | "CELLS MOVING SOUTH AT FOUR ZERO." |
| L2325 | "LINE MOVING NORTHEAST AT TWO FIVE." |

*TBL 14-1-31*

**i.** State the height of the tops in hundreds and/or thousands of feet, and their location by azimuth and distance where indicated. (See TBL 14-1-32.)

**Heights-Tops**

| *Coded* | *Phraseology* |
|---|---|
| MT350 AT 270/20 | "MAX TOP THREE FIVE THOUSAND, TWO ZERO MILES WEST OF (radar site location)." |

*TBL 14-1-32*

**j.** State any remarks after decoding from contractions.

**k.** Do not announce the letters and numbers comprising the digital radar codes at the end of the radar reports.

**l.** Do not announce those portions of RAREP's containing information on the location of a hurricane eye. These reports begin with the identifying words eye or center.

**m.** Following is an example of a RAREP as it appears and as it is broadcast.

***EXAMPLE-***

*OKC 1934 LN 8TRW++/+ 86/40 164/60 199/115 15W L2425 MT570 AT 159/65 2 INCH HAIL RPRTD THIS CELL MO1 NO2 ON3 PM34 QM3 RL2 SL9*

*"Oklahoma City, Oklahoma City, radar report. Three four observation. A line of eight-tenths coverage thunderstorms with very heavy rainshowers increasing in intensity extending from four zero east to six zero south southeast to one one five south southwest of Oklahoma City. One five miles wide. Line moving northeast at two five. Max top five seven thousand, six five southeast of Oklahoma City. Two inch hail reported this cell."*

## 14-1-12. WINDS AND TEMPERATURES ALOFT FORECAST (FD)

When announcing the FD use the following phraseology and procedures:

**a.** State the altitude, then announce wind direction and speed by the separate digits of the wind direction to the 10-degree multiple, the word AT, and the separate digits of the speed.

**b.** When the forecast speed is less than 5 knots, the coded group is 9900 and read, LIGHT AND VARIABLE.

**c.** Encoded wind speed 100 to 199 knots have 50 added to the direction code and 100 subtracted from the speed.

**d.** If wind speed is forecast at 200 knots or greater, the wind group is coded as 199 knots; i.e., 7799 is decoded 270 degrees at 199 knots or greater.

**e.** A six-digit group includes forecast temperature. Provide temperatures on request only, stating the word TEMPERATURE followed by the word MINUS, as appropriate, and the separate digits.
(See TBL 14-1-33.)

**Altitude**

| *Coded* | *Phraseology* |
|---|---|
| 2707 | "(altitude), two seven zero at seven." |
| 7799 | "(altitude), two seven zero at one niner niner or greater." |
| 850552 | "(altitude), three five zero at one zero five, temperature minus five two." |
| 9900+00 | "(altitude), light and variable, temperature zero." |

*TBL 14-1-33*

## 14-1-13. NUMBER USAGE

State numbers as follows:

**a.** Serial numbers. The separate digits.
(See TBL 14-1-34.)

**Serial Numbers**

| *Number* | *Phraseology* |
|---|---|
| 11,495 | "One one four niner five." |
| 20,069 | "Two zero zero six niner." |

*TBL 14-1-34*

**b.** Altitudes or flight levels.

**1.** Altitudes. The separate digits of the thousands plus the hundreds. (See TBL 14-1-35.)

**Altitudes**

| *Altitude* | *Phraseology* |
|---|---|
| 5,000 | "Five thousand." |
| 10,000 | "One zero thousand." |
| 11,500 | "One one thousand five hundred." |

*TBL 14-1-35*

**2.** Altitudes may be restated in group form for added clarity if the specialist chooses.
(See TBL 14-1-36.)

**Altitudes** - *continued*

| *Altitude* | *Phraseology* |
|---|---|
| 10,000 | "Ten thousand." |
| 11,500 | "Eleven thousand five hundred." |

*TBL 14-1-36*

**3.** Flight levels. The words flight level followed by the separate digits of the flight level.
(See TBL 14-1-37.)

**Flight Levels**

| *Flight Level* | *Phraseology* |
|---|---|
| 180 | "Flight level one eight zero." |
| 270 | "Flight level two seven zero." |

*TBL 14-1-37*

**4.** MDA/DH Altitudes. The words minimum descent altitude or decision height followed by separate digits of the MDA/DH altitude. (See TBL 14-1-38.)

**MDA/DH Altitude**

| *Altitude* | *Phraseology* |
|---|---|
| 486 | "Decision height, four eight six." |
| 1,320 | "Minimum descent altitude, one three two zero." |

*TBL 14-1-38*

**c.** Time.

**1.** General time information. The four separate digits of the hour and minutes in terms of Coordinated Universal Time (UTC). (See TBL 14-1-39.)

**Coordinated Universal Time**

| *Time* | *Phraseology* |
|---|---|
| 0115 (UTC) | "Zero one one five." |
| 1315 (UTC) | "One three one five." |

*TBL 14-1-39*

2. Upon request. The four separate digits of the hours and minutes in terms of UTC followed by the local time equivalent; or the local time equivalent only. Local time may be based on the 24-hour clock system. (See TBL 14-1-40.)

**Coordinated Universal Time**

| *Time* | *Phraseology* |
|---|---|
| 2:30 p.m.<br>or | "Two thirty P-M. local." |
| 2230 (UTC), 2:30 p.m<br>or | "Two two three zero; two thirty P-M. local." |
| 2230 (UTC), 1430 PST | "Two two three zero, one four three zero Pacific or local." |

*TBL 14-1-40*

3. Time check. The word "time" followed by the four separate digits of the hour and minutes, and nearest quarter minute. Fractions of a quarter minute less than 8 seconds are stated as the preceding quarter minute; fractions of a quarter minute of 8 seconds or more are stated as the succeeding quarter minute. (See TBL 14-1-41.)

**Time Check**

| *Time* | *Phraseology* |
|---|---|
| 1415:06 | "Time, one four one five." |
| 1415:10 | "Time, one four one five and one-quarter." |

*TBL 14-1-41*

4. Abbreviated time. The separate digits of the minutes only. (See TBL 14-1-42.)

**Abbreviated Time**

| *Time* | *Phraseology* |
|---|---|
| 1415 | "One five." |
| 1420 | "Two zero." |

*TBL 14-1-42*

*NOTE-*
*Change to the next minute is made at the minute plus 30 seconds.*

**d.** Field elevation. The words field elevation followed by the separate digits of the elevation. (See TBL 14-1-43.)

**Field Elevation**

| *Elevation* | *Phraseology* |
|---|---|
| 17 feet | "Field elevation, one seven." |
| 187 feet | "Field elevation, one eight seven." |
| 2,817 feet | "Field elevation, two eight one seven." |

*TBL 14-1-43*

**e.** The number 0, is stated as zero except where it appears in group form.

*EXAMPLE-*
*"Field elevation One Six Zero."*
*"Cessna Two One Six Zero Seven."*
*"Boeing Seven - Oh - Seven."*

**f.** Heading. The word heading followed by the three separate digits of the number of degrees, but omit the word degrees. Use heading 360 degrees to indicate a north heading. (See TBL 14-1-44.)

**Heading/Degrees**

| *Heading* | *Phraseology* |
|---|---|
| 5 degrees | "Heading, zero zero five." |
| 30 degrees | "Heading, zero three zero." |
| 360 degrees | "Heading, three six zero." |

*TBL 14-1-44*

**g.** Radar beacon codes. The word squawk followed by the separate digits of the four-digit code. (See TBL 14-1-45.)

**Radar Beacon**

| *Code* | *Phraseology* |
|---|---|
| 1000 | "Squawk one zero zero zero." |
| 2100 | "Squawk two one zero zero." |

*TBL 14-1-45*

**h.** Runways. The word runway followed by the separate digits of the runway designation. For a parallel runway, state the word left, right, or center if the letter L, R, or C is included in the designation. (See TBL 14-1-46.)

**Runway Designation**

| *Designation* | *Phraseology* |
|---|---|
| 03 | "Runway three." |
| 8L | "Runway eight left." |
| 27R | "Runway two seven right." |

*TBL 14-1-46*

**i.** Frequencies.

1. The separate digits of the frequency, inserting the word point where the decimal occurs. When the frequency is in the L/MF or HF band, include the word kilohertz. (See TBL 14-1-47.)

**Frequencies**

| *Frequency* | *Phraseology* |
|---|---|
| 302 kHz | "Three zero two kilohertz." |
| 5631 kHz | "Five six three one kilohertz." |
| 126.55 MHz | "One two six point five five." |
| 135.275 MHz | "One three five point two seven." |

*TBL 14-1-47*

2. Issue MLS/TACAN frequencies by stating the word CHANNEL followed by the assigned two-or three-digit channel number.

***EXAMPLE-***
*"M-L-S channel five three zero."*
*"TACAN channel niner seven."*

j. Speeds.

1. The separate digits of the speed followed by the word knots. (See TBL 14-1-48.)

**Speed**

| *Speed* | *Phraseology* |
|---|---|
| 95 | "Niner five knots." |
| 185 | "One eight five knots." |
| 250 | "Two five zero knots." |

*TBL 14-1-48*

2. For Mach speeds, the word Mach, followed by the separate digits of the Mach number inserting the word point where the decimal occurs.
(See TBL 14-1-49.)

**Speed**

| *Mach Number* | *Phraseology* |
|---|---|
| 0.64 | "Mach point six four." |
| 0.7 | "Mach point seven." |
| 1.5 | "Mach one point five." |

*TBL 14-1-49*

k. Miles. The separate digits of the mileage followed by the word mile(s). (See TBL 14-1-50.)

**Miles**

| *Miles* | *Phraseology* |
|---|---|
| 30 | "Three zero miles." |

*TBL 14-1-50*

## 14-1-14. FACILITY IDENTIFICATION

Identify facilities as follows:

a. Airport traffic control towers: State the name of the facility followed by the word tower. Where military and civil airports are located in the same general area and have similar names, state the name of the military service followed by the name of the military facility and the word tower.

***EXAMPLE-***
*"Barksdale Tower."*
*"Columbus Tower."*
*"Navy Jacksonville Tower."*

b. Function within a terminal facility. State the name of the facility followed by the name of the function.

***EXAMPLE-***
*"Boston Departure."*
*"LaGuardia Clearance Delivery."*
*"O'Hare Ground."*

c. Approach control facilities, including TRACON's, RAPCON's, RATCF's, and ARAC's. State the name of the facility followed by the word approach. Where military and civil facilities are located in the same general area and have similar names, state the name of the military service followed by the name of the military facility and the word approach.

***EXAMPLE-***
*"Denver Approach."*
*"Griffiss Approach."*
*"Navy Jacksonville Approach."*

d. Air route traffic control centers. State the name of the facility followed by the word center.

e. When calling or replying on an interphone line which connects only two facilities, you may omit the facility's name.

***EXAMPLE-***
*"Flight Data."*
*"Inflight, clearance request."*

f. FAA flight service stations.

1. Inflight position. State the name of the FSS followed by the word radio, and position if appropriate.

***EXAMPLE-***
*"Fairbanks Radio."*
*"Fort Dodge Radio, Inflight 2."*

2. Flight Watch position. State the name of the associated ARTCC followed by the words FLIGHT WATCH.

***EXAMPLE-***
*"Indianapolis Flight Watch."*

*NOTE-*
*During transition to EFAS consolidation, nonconsolidated facilities will state the name of the parent FSS facility followed by the words FLIGHT WATCH.*

3. When calling or replying on interphone lines connecting more than one facility, state the name of the FSS followed by the word radio.

*EXAMPLE-*
*"San Angelo Radio."*

4. When answering public access telephone lines, state the geographical name of the FSS and the words Flight Service.

*EXAMPLE-*
*"Burlington Flight Service."*
*"Miami Flight Service."*

g. Radar facilities having ASR or PAR but not providing approach control service. State the name of the facility followed by the letters G-C-A.

*EXAMPLE-*
*"Chanute G-C-A."*
*"Corpus Christi G-C-A."*
*"Davison G-C-A."*

## 14-1-15. AIRCRAFT IDENTIFICATION

a. Civil. State the aircraft type, the model, the manufacturer's name, or the prefix November followed by the numbers/letters of the aircraft registration.

*EXAMPLE-*
*"Bonanza One Two Three Four Tango."*
*"Douglas Three Zero Five Romeo."*
*"Jet Commander One Four Two Four."*
*"November One Two Three Four Golf."*

*NOTE-*
*The prefix November denotes a U.S. aircraft registry.*

1. Air carrier and other civil aircraft having FAA authorized call signs. State the call sign, in accordance with FAAO 7340.1, Contractions, followed by the flight number in group form.

*EXAMPLE-*
*"American Five Twenty-One."*
*"Commuter Six Eleven."*
*"General Motors Thirty-Fifteen."*
*"Eastern Ten Zero Four."*
*"Delta One Hundred."*

2. If aircraft identification becomes a problem, the call sign shall be restated after the flight number of the aircraft involved.

*EXAMPLE-*
*"American Five Twenty-One American."*
*"Commuter Six Eleven Commuter."*
*"General Motors Thirty-Seven General Motors."*

*REFERENCE-*
*FAAO 7210.3, Para 2-1-2, Facility Standard Operation Procedures Directive.*

3. Air taxi and commercial operators not having FAA authorized call signs. State the prefix TANGO on initial contact, if used by the pilot, followed by the registration number. The prefix may be dropped in subsequent communications.

*EXAMPLE-*
*On initial contact.*
*"Tango Mooney Five Five Five Two Quebec."*
*or*
*"Tango November Five Five Five Two Quebec."*
*On subsequent contacts.*
*"Mooney Five Two Quebec."*
*or*
*"November Five Two Quebec."*

b. Lifeguard aircraft.

1. Air carrier/taxi/ambulance. State the prefix, LIFEGUARD, if used by the pilot, followed by the call sign and flight number in group form.

*EXAMPLE-*
*"LIFEGUARD Delta Fifty-One."*

*NOTE-*
*Usage of LIFEGUARD call sign indicates that operational priority is requested.*

2. Civilian airborne ambulance. State the word LIFEGUARD, followed by the numbers/letters of the registration number.

*EXAMPLE-*
*"LIFEGUARD Two Six Four Six X-Ray."*

c. U.S. Military. State one of the following:

1. The service name followed by the word copter, when appropriate, and a maximum of the last five digits of the serial number.

*EXAMPLE-*
*"Air Guard Copter Two Six Three."*
*"Army Copter Three Two One Seven Six."*
*"Coast Guard Six One Three Two Seven."*
*"Navy Five Six Seven One Three."*

2. If aircraft identification becomes a problem when the above procedures are used, the call sign shall be restated after the flight number of the aircraft involved.

*EXAMPLE-*
*"Army Copter Three Two One Seven Six Army Copter."*
*"Coast Guard Six One Three Two Seven Coast Guard."*

3. Special military operations. State one of the following followed by a maximum of the last five digits of the serial number:

(a) Air evacuation flights. AIR EVAC, MARINE AIR EVAC, or NAVY AIR EVAC.

***EXAMPLE-***
*"AIR EVAC One Seven Six Five Two."*

(b) Rescue flights. (Service name) RESCUE.

***EXAMPLE-***
*"Air Force RESCUE Six One Five Seven Niner."*

(c) Air Mobility Command. REACH.

***EXAMPLE-***
*"REACH Seven Eight Five Six Two."*

(d) Special Air Mission. U-S-SAM.

***EXAMPLE-***
*"U-S-SAM Niner One Five Six Two."*

(e) USAF Contract Aircraft. LOGAIR.

***EXAMPLE-***
*"LOGAIR Seven Five Eight Two Six."*

4. Military tactical and training.

(a) U.S. Air Force, Air National Guard, Military District of Washington priority aircraft, and USAF civil disturbance aircraft. Pronouncable words of three, four, five, or six letters followed by a four-, three-, two-, or one-digit number.

***EXAMPLE-***
*"Okey One Five Seven."*
*"Pokey Four."*
*"Slug Two Zero."*

***NOTE-***
*When the Z suffix described in para 6-5-5, USAF/USN Undergraduate Pilots, para, is added to identify aircraft piloted by USAF undergraduate pilots, the call sign will be limited to a combination of six characters. Do not use this suffix, however, in ground-to-air communication.*

(b) Navy or Marine fleet and training command aircraft. The service name and two letters or a digit and a letter (use letter phonetic equivalents) followed by two or three digits.

***EXAMPLE-***
*"Marine Four Charlie Two Three Six."*
*"Navy Golf Alpha Two One."*

(c) NORAD interceptors. An assigned double-letter two-digit flight number.

***EXAMPLE-***
*"Alpha Kilo One Five."*

(d) Navy Fleet Support Missions. When handling Navy Fleet Support Mission aircraft, use the words Special Flight Number followed by the number as given by the pilot.

d. Foreign registry. State one of the following:

1. Civil. State the aircraft type, manufacturer's name, or country of origin followed by the letters/-numbers of the aircraft registration, or state the letters or digits of the aircraft registration or call sign.

***EXAMPLE-***
*"Stationair F-L-R-B."*
*"C-F-L-R-B."*
*"Canadian Foxtrot Lima Romeo Bravo."*

***NOTE-***
*Letters may be spoken individually or phonetically.*

2. Air carrier. The abbreviated name of the operating company followed by:

(a) The letters or digits of the registration or call sign.

***EXAMPLE-***
*"Air France F-L-R-L-G."*

***NOTE-***
*Letters may be spoken individually or phonetically in accordance with the format used by the pilot.*

(b) The flight number in group form, or separate digits may be used if that is the format used by the pilot.

***EXAMPLE-***
*"Scandinavian Six Eight."*
*"Scandinavian Sixty-Eight."*

3. Military, except Canada.

(a) State the name of the country and the military service followed by the separate digits or letters of the registration or call sign.

(b) Canadian Armed Force aircraft shall be identified by the word CANFORCE followed by the separate digits of the serial number.

(c) The Transport Command of the Canadian Armed Force shall be identified by the words Canadian Military.

(d) The Canadian Coast Guard shall be identified as Canadian Coast Guard followed by the separate digits of the serial number.

***EXAMPLE-***
*"Brazilian Air Force Five Three Two Seven Six."*
*"CANFORCE Five Six Two Seven."*

e. Presidential aircraft and Presidential family aircraft.

1. When the President is aboard a military aircraft, state the name of the military service followed by the word one.

***EXAMPLE-***
*"Air Force One."*
*"Army One."*
*"Marine One."*

2. When the President is aboard a civil aircraft, state the words Executive One.

3. When a member of the President's family is aboard any aircraft, if the U.S. Secret Service or the White House Staff determines it is necessary, state the words Executive One Foxtrot.

f. Vice Presidential aircraft.

1. When the Vice President is aboard a military aircraft, state the name of the military service followed by the word two.

***EXAMPLE-***
*"Air Force Two."*
*"Army Two."*
*"Marine Two."*

2. When the Vice President is aboard a civil aircraft, state the words Executive Two.

3. When a member of the Vice President's family is aboard any aircraft, if the U.S. Secret Service or the White House Staff determines it is necessary, state the words Executive Two Foxtrot.

g. DOT and FAA flights. The following alpha-numeric identifiers radio call signs are for use in air/ground communications when the Secretary of Transportation, Deputy Secretary of Transportation, FAA Administrator, or FAA Deputy Administrator have a requirement to identify themselves:

1. Department of Transportation.

(a) Secretary:

(1) Identifier - DOT-1.

(2) Call Sign - Transport-1.

(b) Deputy Secretary:

(1) Identifier - DOT-2.

(2) Call Sign - Transport-2

2. Federal Aviation Administration.

(a) Administrator:

(1) Identifier - FAA-1.

(2) Call Sign - Safe Air-1.

(b) Deputy Administrator:

(1) Identifier - FAA-2

(2) Call Sign - Safe Air-2.

***PHRASEOLOGY-***
*GRAND FORKS RADIO, TRANSPORT TWO, (message).*
*MIAMI RADIO, SAFE AIR ONE, (message).*

h. Other special flights.

1. Department of Energy flights. State the letters R-A-C (use phonetic alphabet equivalents) followed by the last four separate digits of the aircraft registration number.

***EXAMPLE-***
*"Romeo Alfa Charlie One Six Five Three."*

2. Semiautomatic Flight Inspections. State the code name SAFI followed by the separate digits of the grid number as filed.

***EXAMPLE-***
*"SAFI Five Two Seven."*

3. Flight Inspection of Navigational Aids. State the call sign Flight Check followed by the digits of the registration number.

***EXAMPLE-***
*"FLIGHT CHECK Three Niner Six Five Four."*

4. USAF aircraft engaged in aerial sampling missions. State the call sign SAMP followed by the last three digits of the serial number.

***EXAMPLE-***
*"SAMP Three One Six."*

5. The call signs/code words listed in TBL 14-1-51 are designated for use by the assigned participating Department or Agency. These call signs/code words shall only be used in bona fide air interdiction missions.

**Call Signs**

| | |
|---|---|
| AKRON | Bureau of Alcohol, Tobacco, and Firearms. |
| BOBIK and TYSON | Reserved for assignment. |
| BOISE | Department of Defense. |
| DERBY and COLBY | Reserved for assignment by ATP-1. |
| FLINT | Drug Enforcement Administration. |
| IDAHO | Other law enforcement agencies with a special need. |
| JUSTICE | Dept. of Justice Prisoner and Alien Transportation Service (JPATS). |
| OMAHA | U.S. Customs Service. |
| ROSS | Federal Bureau of Investigation. |
| SALEM | U.S. Border Patrol. |
| ZEAL | U.S. Coast Guard. |

*TBL 14-1-51*

**i.** Use a pilot's name in identification of an aircraft only in special or emergency situations.

### 14-1-16. AIRCRAFT TYPES

Describe aircraft as follows:

**a.** Military.

**1.** Military designator with number spoken in group form; or

**2.** Service and type; or

**3.** Type only if no confusion or misidentification is likely.

***EXAMPLE-***
*"Air Force Bomber."*
*"B-One."*
*"Bomber."*
*"F-Fifteen."*
*"Fighter." "Navy Fighter."*

**b.** Air Carrier.

**1.** Manufacturer's name or model.

**2.** Add the company name or other identifying features when confusion or misunderstanding is likely.

***EXAMPLE-***
*"American M-D Eighty."*
*"American Seven-Zero-Seven."*
*"Boeing Seven-Oh-Seven."*
*"L-Ten-Eleven."*
*"Lockheed Ten Eleven."*
*"United Seven Thirty-Seven."*

**c.** General Aviation and Air Taxi.

**1.** Manufacturer's model, name, or designator.

**2.** Add color when considered advantageous.

***EXAMPLE-***
*"Airliner."*
*"Blue and White King Air."*
*"Cessna Four-Oh-One."*
*"Cessna Three Ten."*
*"Green Apache."*
*"P-A Twenty-Two."*
*"Tri-Pacer."*

### 14-1-17. AIRCRAFT EQUIPMENT CODES

When communicating this information (aircraft equipment suffixes) state the aircraft type, the word slant, and the appropriate phonetic letter equivalent of the suffix.

***EXAMPLE-***
*"Boeing Seven-Oh-Seven slant Romeo."*
*"D-C Six slant Tango."*
*"F-Eight-E slant Papa."*
*"F-Four-C slant November."*

### 14-1-18. AIRWAYS AND ROUTES

Describe airways, routes, or jet routes as follows:

**a.** VOR/VORTAC/TACAN airways or jet routes. State the word Victor or the letter J followed by the number of the airway or route in group form. For RNAV routes, add the word romeo.

***EXAMPLE-***
*"J Eight Thirty Romeo."*
*"J Five Thirty-Three."*
*"Offset one zero miles right of J Eight Thirty Romeo."*
*"Victor Seven Ten Romeo."*
*"Victor Twelve."*

**b.** VOR/VORTAC/TACAN alternate airways. State the word Victor followed by the number of the airway in group form and the alternate direction.

***EXAMPLE-***
*"Victor Twelve South."*

**c.** L/MF airways. State the color of the airway followed by the number in group form.

***EXAMPLE-***
*"Blue Eighty-One."*

**d.** North American Route. State the words North American Route followed by the number of the route in group form.

***EXAMPLE-***
*"North American Route Fifty."*

e. MTR's. State the letters followed by the number of the route in group form.

*EXAMPLE-*
*"I-R Five Thirty-One."*

## 14-1-19. NAVAID TERMS

a. Announce NAVAID's as follows in TBL 14-1-52:

**NAVAID Terms**

| *Contraction* | *Phraseology* |
|---|---|
| DME | D-M-E |
| ILS | I-L-S |
| LOM | Outer compass locator |
| MLS | M-L-S |
| NDB | Nondirectional Radio beacon |
| TACAN | TACK-AN |
| VOR | V-O-R |
| VORTAC | VOR- (as in vortex) TACK |

*TBL 14-1-52*

b. Describe radials, arcs, courses, bearings, and quadrants of NAVAID's as follows:

1. VOR/VORTAC/TACAN/MLS NAVAID's. State the name of the NAVAID followed by the separate digits of the radial/ azimuth (omitting the word degrees) and the word radial/azimuth.

*EXAMPLE-*
*"Appleton zero five zero radial."*
*"Lindburg Runway Two Seven MLS two six zero azimuth."*

2. Arcs about VOR-DME/VORTAC/TACAN/ MLS NAVAID's. State the distance in miles from the NAVAID followed by the words "mile arc," the direction from the NAVAID in terms of the eight principal points of the compass, the word of, and the name of the NAVAID.

*EXAMPLE-*
*"Two zero mile arc southwest of O'Hare Runway Two Seven Left M-L-S."*

3. Quadrant within a radius of NAVAID. State direction from NAVAID in terms of the quadrant, such as NE, SE, SW, NW, followed by the distance in miles from the NAVAID.

*EXAMPLE-*
*"Cleared to fly northeast quadrant of Philipsburg VORTAC within four zero mile radius."*

*REFERENCE-*
*Pilot/Controller Glossary, QUADRANT.*

4. Nondirectional beacons. State the course to or the bearing from the radio beacon, omitting the word degree, followed by the words course to or bearing from, the name of the radio beacon, and the words radio beacon.

*EXAMPLE-*
*"Three four zero bearing from Randolph Radio Beacon."*

## 14-1-20. NAVAID FIXES

Describe fixes determined by reference to a radial/ localizer/azimuth and distance from a VOR-DME/ VORTAC/TACAN/ILS-DME or MLS as follows:

a. When a fix is not named, state the name of the NAVAID followed by a specified radial/localizer/ azimuth, and state the distance in miles followed by the phrase mile fix.

*EXAMPLE-*
*"Appleton zero five zero radial three seven mile fix."*
*"Reno localizer back course four mile fix."*
*"Hobby Runway One Two M-L-S zero niner zero azimuth one two mile fix."*

b. When a fix is named, state the name of the fix followed by the phrase D-M-E fix or waypoint, as appropriate.

*EXAMPLE-*
*"Shaum D-M-E Fix."*
*"Shaum Waypoint."*

c. Use specific terms to describe a fix. Do not use expressions such as passing Victor Twelve or passing J Eleven.

## 14-1-21. RUNWAY CONDITIONS

a. State factual information as reported by airport management concerning the condition of the runway surface and describing the accumulation of precipitation. Furnish quality of braking action as received from pilots or airport management to all aircraft as follows:

1. Describe the quality of braking action using the terms good, fair, poor, or nil. If the pilot or airport management reports braking action in other than the foregoing terms, ask them to categorize braking action in these terms.

2. Include the type of aircraft or vehicle (if known) from which the report is received.

*EXAMPLE-*
*"All runways covered by packed snow six inches deep."*
*"Braking action poor reported by an F Twenty-Seven."*

3. If the braking action report affects only a portion of a runway, obtain enough information from the pilot or airport management to describe braking action in terms easily understood by the pilot.

*EXAMPLE-*
*"Braking action poor first half of runway, reported by a Gulfstream Two."*
*"Braking action poor beyond the intersection of Runway Two Seven, reported by a Boeing Seven Twenty-Seven."*

*NOTE-*
*Descriptive terms, such as first/last half of the runway, should normally be used rather than landmark descriptions; e.g., opposite the fire station, south of a taxiway.*

b. State runway friction measurement readings/ values as received from airport management to aircraft as follows:

1. At airports with friction measuring devices, provide runway friction reports, as received from airport management, to pilots on request. State the runway number followed by the MU number for each of the three runway zones, the time of the report in UTC, and a word describing the cause of the runway friction problem.

*EXAMPLE-*
*"Runway Two Seven, MU forty-two, forty-one, twenty-eight at one zero one eight ZULU, ice."*

2. Issue the runway surface condition and/or the runway condition reading (RCR), if provided, to all USAF and ANG aircraft. Issue the RCR to other aircraft upon request.

*EXAMPLE-*
*"Ice on runway, R-C-R Zero Five, patchy."*

*NOTE-*
*USAF has established RCR procedures for determining the average deceleration readings of runways under conditions of water, slush, ice, or snow. The use of RCR code is dependent upon a pilot's having a "stopping capability chart" specifically applicable to his aircraft. USAF offices furnish RCR information at airports serving USAF and ANG aircraft.*

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8/10/00

U.S. Department
of Transportation
**Federal Aviation
Administration**

# BRIEFING GUIDE

## U.S. DEPARTMENT OF TRANSPORTATION
## FEDERAL AVIATION ADMINISTRATION

**Initiated By: ATP-300**

**1. PARAGRAPH NUMBER AND TITLE:** 6-2-1. FLIGHT PLAN RECORDING, Table 6-2-3, Suffix to Aircraft Type

**2. BACKGROUND:** On February 24, 2000, the FAA implemented the use of Reduced Vertical Separation Minima (RVSM) in the Pacific Oceanic area. This airspace is currently designated as Required Navigation Performance-10 (RNP-10) airspace, a reduced lateral separation minima based on navigational performance. The equipment suffix for RVSM is /W, and the equipment suffix for RNP is /R. Our current computer processors are only capable of displaying one equipment suffix. With the introduction of RVSM in the Pacific region, controllers will need to be aware of both /R and /W suffix qualifiers. To indicate to the controller that an aircraft is qualified for both RVSM and RNP a new equipment suffix identifier, /Q, is being added. It is important to note that the airlines will not be filing /Q. This is an identifier internal to the FAA's flight plan data processing systems. When our computer processors receive a flight plan indicating both /R and /W equipment suffixes, the computer will automatically convert this combination to a single, displayable equipment suffix identifier, /Q.

**3. CHANGE:**

**OLD**

**6-2-1. FLIGHT PLAN RECORDING**

Table 6-2-3, Suffix to Aircraft Type

| *Suffix* | *Aircraft Equipment Suffixes* |
|---|---|
| Add | Add |

**NEW**

**6-2-1. FLIGHT PLAN RECORDING**

Table 6-2-3, Suffix to Aircraft Type

| *Suffix* | *Aircraft Equipment Suffixes* |
|---|---|
| **/Q** | **Required Navigation Performance (RNP) and Reduced Vertical Separation Minima (RVSM) (indicate approval for application of RNP and RVSM separation standards). It should be noted that /Q is for automation purposes only and will not be filed by system users. FAA processors will convert the combination of /R+/W to =/Q.** |

**4. OPERATIONAL IMPACT:** With the implementation of the suffix identifier /Q, the Microprocessor En Route Automated Radar Tracking System (MEARTS) will be capable of displaying site selected color in the full data block to support the controllers with a visual cue in determining which aircraft are authorized for RVSM/RNP separation standards. The conflict probe function for the Oceanic Display and Planning System (ODAPS) will recognize /Q and probe for any traffic conflictions utilizing these reduced separation standards. All personnel involved with the processing and interpretation of flight plan data must be cognizant of the fact that /Q is an internal FAA equipment identifier, and that air carriers will not file a /Q in the equipment suffix portion of their flight plans.


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